

**Call for Additional FY 2003
Common High Performance Computing Software Support Initiative (CHSSI)
Project Proposals
in Chemical/Biological Defense**

**Frequently Asked Questions
and
Sample Documentation and Reporting Requirements**

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Frequently Asked Questions

Q I don't have a project that fits into any of the areas included in the call. Can I submit a proposal for my project anyway?

A No. Only projects directly related to the areas advertised in this call will be considered.

Q What is the duration of a CHSSI project?

A The duration of a CHSSI project is three years. We expect that a deliverable will be "fielded" in three years.

Q Is the funding listed (\$200,000 - \$600,000) for the entire project or per year?

A The funding is per year. Proposers whose projects are selected will be notified of the specific amount approved for their projects when notified of project selection.

Q Are resumes and references included in the 15 page limit.

A No. See paragraph 4c of the selection plan.

Q Do you require signatures from my management with my proposal?

A No. The High Performance Computing Modernization Program (HPCMP) requires a memorandum of commitment from your management only after proposals have been selected. See paragraph 6 of the selection plan.

Q Will CHSSI fund the development of software for Linux clusters?

A High Performance Computing Modernization Program (HPCMP) systems used for CHSSI-developed software include Linux clusters. Proposals may be submitted for software development efforts that will use an HPCMP Linux system. Please note that software developed under

CHSSI must be ported to at least two high performance computing platforms at HPCMP shared resource centers.

Q We are a little concerned about the overhead and oversight that our organization might be required to supply. Like many, we are rather tight for manpower. In reading the Project Selection Plan, I see that there are requirements for reporting to the HPCMP. How stringent are these requirements?

A The reporting requirements are very important and must be stringently adhered to. The HPCMP will freeze or terminate funding for any project that has not complied with documentation, oversight, and/or reporting requirements. The requirements are only those necessary for good project management and essential project oversight by the HPCMP. All of the key project management and test plans (e.g., the *Software Development Plan*) have boilerplates for simplicity of incorporating required text. However, the content is important and information is reviewed and approved prior to the start of a project. Additional reporting requirements are monthly financial and quarterly technical and management reports, which also have boilerplate formats.

Please note that you should budget for overhead and oversight in your proposal's funding tables. Our experience is that overhead and oversight requirements average approximately \$50,000/year.

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- Q What we propose may involve taking Commercial-off-the-Shelf (COTS) software and modifying it. Of course, this would involve cooperation and involvement of the contractor who makes the software. But how feasible is this, and will the end product have to be releasable to all? Would this be as tricky as I think it might be?**
- A** The use of COTS software may be included in a proposal. However there are many problems dealing with COTS that must be resolved before the proposal is submitted. Work with knowledgeable acquisition personnel to ameliorate known problems involved in COTS modification. Known problems lie in the intellectual property rights of the code in question, and the export control issues associated, as well as distribution rights to the software. There are also problems of invalidating warranties by using COTS and the problem of compatibility of the modifications to future versions of COTS. All of these issues will require much work to mitigate the risks associated with a COTS-related proposal. Ensure that: procedures are incorporated into the contract that require the contractor to review all subcontractor or vendor COTS products; all commercial hardware and software in the system are supportable; license fees and other support and maintenance costs are disclosed; responsibilities are defined for maintaining system compatibility. Data rights may be a concern if a contractor has developed intellectual property independent of the contract. You should ensure you have identified and priced all restricted rights for the software and documentation being modified. In addition, you must ensure compliance with current DoD data standardization policies, including the use of standard data. Specifically, DoD policies require compliance with DoD Directive 8320.1. Also see <http://www.acq.osd.mil/ar/doc/intelprop.pdf>, which provides an overview of the current DoD policy concerning intellectual property rights.
- Q Can private corporations or academic institutions submit CHSSI proposals?**
- A** No. Proposals must be submitted by DoD government employees (civilian or military). Please see paragraph 4a of the selection plan.
- Q Do CHSSI funds only pay for contractors, or can they be used to pay the salary of project team members?**
- A** CHSSI funds can be used to pay for labor and travel of DoD personnel and be placed on contract(s) for personnel to perform the software parallelization.
- Q On page 5 of the Project Selection Plan, under deliverables, is the requirement: "Identify two or more DoD HPCMP scalable architectures that will be used to develop scalable implementations of the proposed software. In addition, identify the DoD scalable high performance computing platforms to be used for demonstration and production computations."**
- I get "computing platforms", but I'm a little unsure about what you want for "scalable architectures". Shared memory versus distributed memory? The dimensionality of the connections between the nodes?**
- A** *Architecture*, in this context is the computer design; the way components fit together (e.g., the way the capability of the system can be scaled up by simply adding additional components). The term is used particularly of processors, both individual and in general; but also applies to other key components, which differentiate the supercomputers extant. For HPCMP-

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managed hardware at our major shared resource centers (MSRC), go to <https://xwww.asc.hpc.mil/cgi-bin/hwbycntr.pl>. The divergence of architectures is very apparent on the MSRC hardware page because it lists the operating systems, types of processors, and memory types.

Platform refers to specific computer hardware - one row of the MSRC table would be a platform.

Q The project proposal instructions include “performance profiling”. What is this and how do I do this on my software.

A *“In order to guarantee that the software being written will meet its performance objectives, software execution speed must be monitored at every step..., with any trade off decisions being based on objective data rather than subjective reasoning. Software performance profiling is the most popular means of determining where a software application spends its time. Available in a range of tools, performance profiling enables developers to see how much time their software is spending in each function in the system, enabling them to focus on those areas of code that would offer the most benefits from optimization efforts.”*

[Nat Hillary, *Beyond Profiling – Gaining Control of Software Performance*, Applied Microsystems Corporation, Nov. 27, 2001.]

The HPCMP has an array of software performance profiling tools available for your use. You, or the person who will profile the code for you, must have an account on one of our systems to use the tools. Please contact your local Service/Agency Approval Authority (S/AAA) for additional information regarding accounts. For more information on the available performance profiling

tools, please contact the CBD portfolio leader, Dr. Steve Bunte at bunte@arl.army.mil or the Programming Environments and Training point of contact for Computational Environments, Dr. Shirley Moore who may be reached at shirley@cs.utk.edu for assistance in identifying and utilizing the available performance profiling tools.

Q I do not plan to submit a proposal, but I would like to know about the software codes when they are completed. Do you maintain a mailing list?

A The HPCMP does not maintain a subscription or mailing list for software codes produced using CHSSI funds. Please contact the CBD portfolio leader, Dr. Steve Bunte, at bunte@arl.army.mil to insure that you are included in future discussions regarding software requirements in CBD.

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Sample Documentation and Other Requirements

The following documents are required to be submitted **after** the proposal is selected:

1. Memorandum of Endorsement: A memorandum of endorsement from your laboratory or test center director will be the first post-selection requirement - due within 30 days of selection. A sample memorandum is at the last page of the Project Selection Plan.
2. Software Development Plan: This plan extensively documents the management and development processes for the project. The plan's outline is show below.

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- Quarterly Report: These reports are synopses of key activities programmed and accomplished during the preceding fiscal quarter. They provide HPCMP management with a snapshot of the project's progress. Quarterly reports are due the 15th of the month following each federal fiscal quarter. That is, January 15th for 1st quarter reports covering October, November and December; April 15th for 2nd quarter reports covering January, February and March, and so on. On the next page is a picture of the current format for project quarterly reports.

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Sample Documentation and Other Requirements

<p align="center">CHSSI Project <project number> <project title></p> <p align="center">Quarterly Report for <quarter and FY being reported></p> <p align="center">Principal Investigator: <name> <email address> <email address> <phone number> <fax number></p>																			
<p>I. PROJECT INFORMATION: (Note: if the project is developing multiple codes, show the schedule for each one.)</p> <table border="1"> <thead> <tr> <th></th> <th>Original Approved</th> <th>Revised</th> </tr> </thead> <tbody> <tr> <td>Project Start Date:</td> <td>X Quarter FY XX</td> <td>X Quarter FY XX</td> </tr> <tr> <td>SAT Review Date:</td> <td>X Quarter FY XX</td> <td>X Quarter FY XX</td> </tr> <tr> <td>Alpha Review Date:</td> <td>X Quarter FY XX</td> <td>X Quarter FY XX</td> </tr> <tr> <td>Beta Review Date:</td> <td>X Quarter FY XX</td> <td>X Quarter FY XX</td> </tr> <tr> <td>IOC Review Date:</td> <td>X Quarter FY XX</td> <td>X Quarter FY XX</td> </tr> </tbody> </table> <p>Schedule Slippage/Advancement: <If the test schedule has slipped or advanced, explain in one or two paragraphs. ></p>			Original Approved	Revised	Project Start Date:	X Quarter FY XX	X Quarter FY XX	SAT Review Date:	X Quarter FY XX	X Quarter FY XX	Alpha Review Date:	X Quarter FY XX	X Quarter FY XX	Beta Review Date:	X Quarter FY XX	X Quarter FY XX	IOC Review Date:	X Quarter FY XX	X Quarter FY XX
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Schedule:	<red/yellow/green> >	<comments explaining status>																	
Test and Evaluation:	<red/yellow/green> >	<comments explaining status>																	
<p>III. OTHER COMMENTS</p> <ol style="list-style-type: none"> 1. <If applicable, explain why goals have not been completed as planned> 2. <If applicable, explain any changes to testing/release schedule> 3. <Give any information pertinent to the project that has not been mentioned elsewhere and list the activities each team member has undertaken during the quarter> 																			
<p>IV. SIGNIFICANT DEVELOPMENTS</p> <p>Goals for Previous Quarter:</p> <ol style="list-style-type: none"> 1. <This is a list of the goals you set for your project last quarter to be completed during this quarter. These goals should correlate to the Work Breakdown Structure of the Software Development Plan.> <p>Goals Completed:</p> <ol style="list-style-type: none"> 1. <This lists the goals completed during this quarter. These directly refer to the goals listed above. Goals which have not been attained must be explained in Section III.> <p>Goals for Next Quarter:</p> <ol style="list-style-type: none"> 1. <This is a list of the goals you plan on tackling during the next quarter. These goals should correlate to the Work Breakdown Structure of the Software Development Plan.> 																			

4. **Financial Management Report:** This simple spreadsheet is due each month and provides a synopsis of obligations and expenditures –cumulatively, including those incurred the preceding month. The financial management reports are due the 15th of every month. The HPCMO will provide the spreadsheet template to be filled out and returned to the HPCMO.

Definitions

Obligations. An obligation occurs when an obligating official (like a contracting officer) makes an award (like a contract) to an entity (person, firm, university) on behalf of a DoD organization, thereby obligating that organization to fund the work done in compliance with the awarding document.

Expenditures. Depending on your point of view....Expenditures are actual payments TO the contracted entity AND they are disbursements of funds FROM the DoD agency.

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5. **Testing Program:** Throughout the progression of the software development effort, the software will be required to undergo a series of tests. Each project will undergo a software acceptance test, alpha test, beta test, and may undergo an operational test readiness review. Test plans/scenarios and test reports will be required for each test. Guidance and templates will be provided to the project leads by the HPCMP.

